

7 ARDROX	Page 1 of 2
<div>Division of Forensic Science</div> <div>LATENT FINGERPRINTS PROCEDURES MANUAL</div>	Amendment Designator:
	Effective Date: 29-January-2004
<div>7 ARDROX</div> <div>7.1 INTRODUCTION</div> <p>Ardrox P133D is an industrial penetrant manufactured by Ardrex, Limited, of Canada, as 970-P10, and available in the United States from Radiatronics, Incorporated, of Overland Park, Kansas. The stain was developed to detect small fractures in construction materials and possesses certain properties that can be successfully utilized in latent print processing. Ardrex P133D readily penetrates and remains in minute openings, yet is easily rinsed from surrounding surfaces, and is highly luminescent with long wave, ultra violet light excitation.</p> <p>Ardrex P133D staining was developed as a means of enhancing cyanoacrylate ester polymerized impressions. The properties of Ardrex are highly complementary to the cyanoacrylate ester process, and may yield results that equal or surpass those of the Rhodamine 6G procedure. However, instances have occurred when Rhodamine 6G revealed impressions that were not stained by Ardrex P133D with UV excitation. This lack of consistency currently delegates Ardrex P133D as an additional processing technique, not as a replacement for dye and laser examination.</p> <p>Ardrex P133D is also luminescent with blue laser or 470 nm xenon arc illumination. However, since the two procedures are compatible, use of Ardrex staining as an additional technique to be utilized in conjunction with the laser dyes, whenever possible, is recommended.</p> <div>7.2 PREPARATIONS</div> <p>Ardrex is commercially available. No preparation is needed..</p> <div>7.3 INSTRUMENTATION</div> <p>High Intensity Ultra Violet Light Source. Alternate Light Source Laser</p> <p>Items treated with the Ardrex solution can be examined with any long wave UV light source, or with blue light of laser or alternate light origin. In most cases, UV illumination is preferable to laser or xenon arc excitation, particularly to facilitate photography. Low wattage black light bulbs are available that fit standard fluorescent light desk lamps and provide adequate illumination for Ardrex luminescence. These bulbs also create a large area of light with even output. High intensity UV sources, such as 100 watt mercury vapor lights, offer a higher degree of illumination that can be directed and may provide the best source of illumination for increased luminescence.</p> <p>Proper safety precautions including avoiding skin exposure and proper eye protection with appropriate optical densities should be utilized when operating ultraviolet light sources, lasers or alternate light sources. Consult the appropriate users manuals for the safe use and appropriate eye protection for the specific piece of equipment being utilized.</p> <div>7.4 MINIMUM STANDARDS AND CONTROLS</div> <p>Dye stains, such as Ardrex, work by discoloring latent impressions developed with cyanoacrylate ester. Due to their inherent ability to stain and discolor the ridge detail, there is no need for test impressions to be done prior to evidence application.</p> <div>7.5 PROCEDURE OR ANALYSIS</div> <p>All applications should be done in a fume hood</p> <div>7.5.1 Undiluted Ardrex application</div> <ol style="list-style-type: none"> 1. Completely cover the item to be processed with undiluted Ardrex by immersion or by squirt bottle. 	

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<div data-bbox="282 294 1089 510"> <ol style="list-style-type: none"> 2. Allow the liquid to remain on the item for about ten minutes. 3. Rinse the item under tap water until no yellow color remains. 4. Allow the item to dry and examine with the appropriate light source. 5. Photograph any impressions observed using appropriate film and filters. </div> <div data-bbox="207 537 878 569"> <p>7.5.2 Ardrex methanol, and isopropanol formulas-application</p> </div> <div data-bbox="282 598 1533 1024"> <ol style="list-style-type: none"> 1. Apply the solution to the item to be processed by immersion or squirt bottle. 2. Allow the solution to remain on the item for several minutes to insure proper adherence of the Ardrex to the cyanoacrylate developed impressions. 3. Examine the item using the appropriate light source without rinsing to determine if background staining has occurred. If not, proceed to step 5. 4. If background staining is observed and prevents adequate photographic preservation expose the item to a light tap water rinse. 5. Allow the item to dry completely and examine with the appropriate light source. 6. Have any impressions photographed. </div> <div data-bbox="151 1054 623 1085"> <p>7.6 INTERPRETATION OF RESULTS</p> </div> <div data-bbox="207 1115 1471 1178"> <p>As with laser dye visualized impressions, Ardrex P133D developed latents usually appear as light impressions on dark backgrounds that must be preserved photographically.</p> </div> <div data-bbox="151 1207 389 1239"> <p>7.7 REFERENCES</p> </div> <div data-bbox="207 1268 1528 1665"> <ol style="list-style-type: none"> 1. Lennard, Christopher J.; Pierre A. Margot. "Sequencing of Reagents for the Improved Visualization of Latent Fingerprints"; <i>Journal of Forensic Identification</i>, September/October 1988, 38, 5, 197-210. 2. Kent, Terry, ed. <i>Fingerprint Development Techniques</i>; Heanor Gate Publisher: Derbyshire, England, 1993. 3. McCarthy, Mary M. "Evaluation of Ardrex as a Luminescent Stain for Cyanoacrylate Processed Latent Impressions"; <i>Journal of Forensic Identification</i>, 1990, 40, 2, 75-80. 4. Murbarger, Melissa, Lisa Zaccagnini, Substitute for Freon-Ardrex Formula. Illinois State Police Internal Publication, 1997. 5. Vachori, G.; J. Sorel. "New Fingerprint Development Process, in Proceedings of the International Forensic Symposium on Latent Prints"; U.S. Department of Justice: U.S. Government Printing Office, 1987. </div> <div data-bbox="1489 1696 1547 1724"> <p align="right">◆End</p> </div>	